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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,142

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Jeffrey W. Scott

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O'KEEFE, EGAN, PETERMAN & ENDERS LLP
1101 CAPITAL OF TEXAS HIGHWAY SOUTH
#C200
AUSTIN, TX 78746

EXAMINER

PHU, PHUONG M

ART UNIT

PAPER NUMBER

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/780,142

Applicant(s)

SCOTT ET AL.

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 56-150 is/are pending in the application.
- 4a) Of the above claim(s) 63-90 and 143-150 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60-62, 103-112, 120-124 and 135-142 is/are allowed.
- 6) ☒ Claim(s) 56, 58, 59, 91-99, 101, 102, 113-116, 118, 119, 125-131, 133 and 134 is/are rejected.
- 7) ☒ Claim(s) 57, 100, 117 and 132 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/2/04, 9/28/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 2/8/07. Accordingly, claims 56-150 are currently pending, of which claims 56-62 and 91-142 are elected and claims 63-90 and 143-150 are non-elected claims; and claims 1-55 are canceled.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 56, 58, 59 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 6 of U.S. Patent No. 6,385,235, claim 12 of U.S. Patent No. 6,137,827, claim 1 of U.S. Patent No. 6,570,513 and claim 10 of U.S. Patent No. 6,385,235.

-Regarding to claim 56, claim 10 of U.S. Patent No. 6,137,827 discloses a powered side circuitry comprising:

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an isolation interface (comprising “powered encoder circuit”, “isolation barrier” and “powered driver circuit”), capable of communicating digitally with user end phone line side circuitry “isolated system” through a user end isolation barrier “isolation barrier” that comprises a plurality of isolation elements “capacitors”; and

encode circuitry “power encoded circuit” within said isolation interface to generate an encoded digital signal from a digital data stream “digital signal” for transmission across at least two of the isolation elements of said isolation barrier, the at least two isolation elements comprising at least a first isolation capacitor and a second isolation capacitor, and the isolation interface being capable of communicating bi-directionally across said isolation barrier.

Claim 10 of U.S. Patent No. 6,137,827 does not teach that the isolation interface is capable of carrying out bidirectional communication through the first and second isolation capacitors, as claimed.

Claim 18 of U.S. Patent No. 6,137,827 teaches that bidirectional communication can be carried out through each isolation capacitors of an isolation barrier.

Since claim 10 does not teach in detail how the bidirectional communication is carried out through the isolation barrier, it would have been obvious for one skilled in the art to implement the invention of claim 10 in such a way that the bidirectional communication would be configurable to be conveyed and to exist through the first and second isolation capacitors of the isolation barrier, as taught by claim 18, so that the bidirectional communication would be obtained as required. With such the implementation, claim 10 in view of claim 18 teaches that the isolation interface is capable of carrying out bidirectional communication through the first and second isolation capacitors.

Claim 10 in view of claim 18 does not teach whether the encoded digital signal is an encoded digital differential signal including control data and the digital data signal, as claimed.

In a similar endeavor, claim 24 of U.S. Patent No. 6,137,827 teaches an encoding procedure of encoding a digital signal “data signals” by multiplexing the digital signal with control data “control signals” to obtain an encoded digital differential signal “differential digital signal”.

Since claim 10 in view of claim 18 does not teach in detail how the encoded digital signal is generated, it would have been obvious for one skilled in the art to implement the procedure (comprising “isolated encoder circuit”) in such a way that the procedure would multiplex the digital data signal with control data to obtain the encoded digital signal being an encoded digital differential signal comprising the digital signal and control data, as taught by claim 24, so that the generated encoded digital signal would be obtained as required.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827 and claim 24 of U.S. Patent No. 6,137,827 does not disclose that said encoded digital differential signal comprising framing data added to said digital data stream for synchronizing within said phone line side circuit.

In a similar endeavor, claim 6 of U.S. Patent No. 6,385,235 teaches such a encoded digital differential signal can be configured to comprises framing data added to said digital data stream for data synchronization within a phone line side circuitry.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827 and claim 24 of U.S. Patent No. 6,137,827 in such a way that said encoded digital differential signal

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comprising framing data added to said digital data stream for synchronization within said phone line side circuit, as taught by claim 6 of U.S. Patent No. 6,385,235, so that the invention would be enhanced with capability of synchronization within said phone line side circuit.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827 and claim 6 of U.S. Patent No. 6,385,235 does not teach that the power side circuitry provides a clock signal to the phone line side circuitry through at least one of the plurality of isolation elements, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the invention comprises a clock circuit within the phone line side circuitry having an input connected to isolation elements of the isolation barrier for providing a clock signal “isolated clock signal” to the phone line side circuitry.

In a similar endeavor, claim 12 of U.S. Patent No. 6,137,827 teaches that such a clock signal “clock signal” can be provided from a powered side circuitry to the phone line side circuitry through one or isolation elements of a isolation barrier.

Since claim 10 in view of claims 18, 24, and 6 does not teach in detail how the clock signal is provided, it would have been obvious for one skilled in the art to the invention of claim 10 in view of claims 18, 24, and 6 in such a way that the clock signal is provided from the powered side to the clock circuit of the phone line side through one or isolation elements of a isolation barrier, as taught by claim 12, so that the clock signal would be obtained as required.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 6 of U.S. Patent No. 6,385,235 and claim 12 of U.S. Patent No. 6,137,827 does teach that the power side circuitry provides power to the phone

line side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the phone line side circuitry comprises an isolated power supply circuit connected to one or more isolation elements of the isolation barrier for converting a portion of energy in signal(s) transmitted cross the isolation element(s) into DC power to other circuitry in the phone line side circuitry.

In a similar endeavor, claim 1 of U.S. Patent No. 6,570,513 teaches procedure of providing power from a powered side circuitry “system side integrated circuit device” to a phone line side circuitry “line side integrated circuit device” while still maintaining the isolation required by the phone line isolation regulation standards.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 6 of U.S. Patent No. 6,385,235 and claim 12 of U.S. Patent No. 6,137,827 in such a way that the isolated power supply circuit would receive signal(s) conveying power/energy and being transmitted from the powered side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as taught by claim 1, via one or more isolation elements of the isolation barrier, for converting a portion of energy in the transmitted signal(s) transmitted into DC power to other circuitry in the phone line side circuitry so that the invention would enhanced by capability of maintaining the isolation required by the phone line isolation regulation standards.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 6 of U.S. Patent No. 6,385,235, claim 12 of U.S.

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Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 does not teach that the powered side circuitry comprises a communication interface coupled to an external user end, as claimed.

In a similar endeavor, claim 10 of U.S. Patent No. 6,385,235 teaches that such a powered side circuitry can be configured to comprise a communication interface coupled to an external user end.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 6 of U.S. Patent No. 6,385,235, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 in such a way that the powered side circuitry would further comprise a communication interface coupled to an external user end, as taught by claim 10 of U.S. Patent No. 6,385,235, so that the invention would be enhance with capability of interfacing with an external user end.

-Regarding to claim 58, as applied to claim 56, claim 10 of U.S. Patent No. 6,137,827 teaches that the each of said plurality of isolation elements of said isolation barrier comprises a capacitor.

-Regarding to claim 59, as similarly applied to claim 58, claim 10 of U.S. Patent No. 6,137,827 teaches that at least a portion of said plurality of isolation elements of said isolation barrier each comprises a capacitor.

4. Claims 91-94, 96, 97, 99, 101, 102 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513.

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-Regarding to claim 91, claim 10 of U.S. Patent No. 6,137,827 discloses a system comprising:

powered side circuitry "power system" operable to communicate digitally with phone line side circuitry "isolation system" across an isolation barrier "isolation barrier" that comprises a plurality of isolation elements "capacitors", said digital communication comprising a first digital data stream "digital signal" transmitted across at least two of the isolation elements of said isolation barrier, the at least two isolation elements (as capacitors) comprising at least a first isolation capacitor and a second isolation capacitor; and

phone line side circuitry "isolated system" operable to communicate digitally with said powered side circuitry by a second digital signal "digital signal" transmitted across the isolation barrier so that the first and second isolation capacitors bidirectionally transfer the first and second digital signals.

Claim 10 of U.S. Patent No. 6,137,827 does not teach that the first digital data stream is transmitted across the at least two of the isolation elements of the isolation barrier through a first set of bi-directional connections; and the second digital data stream is transmitted across the same first and second isolation elements of said isolation barrier through a second set of bi-directional connections so that the first and second isolation elements bidirectionally transfer the first and second digital signal, as claimed.

Claim 18 of U.S. Patent No. 6,137,827 teaches that bidirectional communication can exist via each isolation capacitors of an isolation barrier through each of two port of each isolation capacitor of the isolation barrier.

Since claim 10 does not teach in detail how the bidirectional communication exists through the isolation barrier is conveyed through the isolation barrier, it would have been obvious for one skilled in the art to implement the invention of claim 10 as taught by claim 18 in such a way that the first digital data stream would be configurable to be transmitted across the at least two of the isolation elements of the isolation barrier through a first set of bi-directional connections, the first set of bi-directional connections comprising ports of the at least two of the isolation elements on the powered side; and the second digital data stream would be configurable to be transmitted across the same first and second isolation capacitors of said isolation through a second set of bi-directional connections, the second set of bi-directional connections comprising ports of the at least two of the isolation elements on the phone side, so that the bidirectional communication would be obtained as required. With such the implementation, claim 10 in view of claim 18 teaches that the first digital data stream is transmitted across the at least two of the isolation elements of the isolation barrier through a first set of bi-directional connections; and the second digital data stream is transmitted across the same first and second isolation elements of said isolation barrier through a second set of bi-directional connections so that the first and second isolation elements bidirectionally transfer the first and second digital signal.

Claim 10 in view of claim 18, does not teaches that the first digital data stream transmitted is a first digital differential signal, and the second digital signal is a second digital differential signal, as claimed.

However, claim 10 teaches that the invention comprises a powered encoder circuit for encoding the first digital data stream into a first encoded digital signal to be transmitted to the phone line side circuitry via the isolation barrier; and an isolated encoder circuit for encoding the

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second digital data stream into a second encoded digital signal to be transmitted to the powered side circuitry via the isolation barrier.

In a similar endeavor, claim 24 of U.S. Patent No. 6,137,827 teaches an encoding procedure of encoding a digital signal “data signals” by multiplexing the digital signal with control data “control signals” to obtain an encoded digital differential signal “differential digital signal”.

Since claim 10 in view of claim 18 does not teach in detail how the first and second encoded digital signal is generated, it would have been obvious for one skilled in the art to implement each of the powered encoder circuit and the isolated encoded circuit with an encoding procedure, as taught by claim 24, in such a way that the procedure would multiplex the digital data signal, in a powered encoder circuit and the isolated encoded circuit respectively, with control data to obtain the respective first encoded digital signal and second encoded digital signals being encoded digital differential signals each comprising the digital signal and control data, so that the generated first and second encoded digital signals would be obtained as required.

Claim 10 in view of claims 18 and 24 does not teach that the power side circuitry provides a clock signal to the phone line side circuitry through at least one of the plurality of isolation elements, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the invention comprises a clock circuit within the phone line side circuitry having an input connected to isolation elements of the isolation barrier for providing a clock signal “isolated clock signal” to the phone line side circuitry.

In a similar endeavor, claim 12 of U.S. Patent No. 6,137,827 teaches that such a clock signal “clock signal” can be provided from a powered side circuitry to the phone line side circuitry through one or isolation elements of a isolation barrier.

Since claim 10 in view of claims 18 and 24 does not teach in detail how the clock signal is provided, it would have been obvious for one skilled in the art to the invention of claim 10 in view of claims 18 and 24 in such a way that the clock signal is provided from the powered side to the clock circuit of the phone line side through one or isolation elements of a isolation barrier, as taught by claim 12, so that the clock signal would be obtained as required.

Claim 10 in view of claims 18, 24 and 12 does teach that the power side circuitry provides power to the phone line side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the phone line side circuitry comprises an isolated power supply circuit connected to one or more isolation elements of the isolation barrier for converting a portion of energy in signal(s) transmitted cross the isolation element(s) into DC power to other circuitry in the phone line side circuitry.

In a similar endeavor, claim 1 of U.S. Patent No. 6,570,513 teaches procedure of providing power from a powered side circuitry “system side integrated circuit device” to a phone line side circuitry “line side integrated circuit device” while still maintaining the isolation required by the phone line isolation regulation standards.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 in view of claims 18, 24 and 12 in such a way that the isolated power supply circuit would receive signal(s) conveying power/energy and being transmitted from the powered side circuitry

while still maintaining the isolation required by the phone line isolation regulation standards, as taught by claim 1, via one or more isolation elements of the isolation barrier, for converting a portion of energy in the transmitted signal(s) transmitted into DC power to other circuitry in the phone line side circuitry so that the invention would be enhanced by capability of maintaining the isolation required by the phone line isolation regulation standards.

-Regarding to claim 92, as applied to claim 91, claim 10 of U.S. Patent No. 6,137,827 discloses the invention comprises said isolation barrier coupled between said powered side circuitry and said phone line side circuitry.

-Regarding to claim 93, as applied to claim 91, claim 10 in view of claims 18, 24, 12 and 1 teaches that the invention is configurable in such a way that said first digital differential signal comprises an first encoded digital differential signal; and wherein said powered side circuitry includes encode circuitry "powered encoder circuit" (see claim 10) coupled to said digital data stream to generate said first encoded digital differential signal for transmission across said first and second isolation capacitors of said isolation barrier; and wherein said phone line circuitry includes first decode circuitry "isolated decoder" (see claim 10) to generate a first decoded digital signal from said first encoded digital differential signal.

-Regarding to claim 94, as applied to claim 91, claim 10 in view of claims 18, 24, 12 and 1 teaches that in the invention, said first encoded digital differential signal comprises control data added to said digital data stream.

-Regarding to claim 96, as applied to claim 91, claim 10 in view of claims 18, 24, 12 and 1 teaches that the invention is configurable in such a way that said second digital differential signal comprises an second encoded digital differential signal; and wherein said phone line side

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circuitry includes encode circuitry “isolated encoder circuit” (see claim 10) coupled to said digital data stream to generate said second encoded digital differential signal for transmission across said first and second isolation capacitors of said isolation barrier; and wherein said powered circuitry includes second decode circuitry “powered decoder” (see claim 10) to generate a second decoded digital signal from said second encoded digital differential signal.

-Regarding to claim 97, claim 10 in view of claims 18, 24, 12 and 1 teaches that, in the invention, said encoded digital differential signal comprises control data added to said digital data stream.

-Regarding to claim 99, as applied to claim 91, claim 10 in view of claims 18, 24, 12 and 1 teaches that at least one of the first digital differential signal and the second digital differential signal includes both data and control information.

-Regarding to claim 101, as applied to claim 91, claim 10 in view of claims 18, 24, 12 and 1 teaches that each of said plurality of isolation elements of said isolation barrier comprises a capacitors.

-Regarding to claim 102, as similarly applied to claim 101, claim 10 in view of claims 18, 24, 12 and 1 teaches that at least a portion of said plurality of isolation elements of said isolation barrier each comprises a capacitors.

5. Claim 95 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 and further in view of claim 6 of U.S. Patent No. 6,385,235.

-Regarding to claim 95, claim 10 in view of claims 18, 24, 12 and 1 does not teach that said first encoded digital differential signal comprises framing data added to said digital data stream for data synchronization within said phone line side circuitry, as claimed.

In a similar endeavor, claim 6 of U.S. Patent No. 6,385,235 teaches such a encoded digital differential signal can be configured to comprises framing data added to said digital data stream for data synchronization within a phone line side circuitry.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 in view of claims 18, 24, 12 and 1 in such a way that said first encoded digital differential signal comprising framing data added to said digital data stream for synchronization within said phone line side circuit, as taught by claim 6 of U.S. Patent No. 6,385,235, so that the invention would be enhanced with capability of synchronization within said phone line side circuit.

6. Claim 98 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 and further in view of claim 9 of U.S. Patent No. 6,385,235.

-Regarding to claim 98, claim 10 in view of claims 18, 24, 12 and 1 does not teach that said control data comprises phone line status information, as claimed.

In a similar endeavor, claim 9 of U.S. Patent No. 6,385,235 teaches that such a control data is configurable to comprise phone line status information.

Since claim 10 in view of claims 18, 24, 12 and 1 does not teach in detail about the content of the control data, it would have been obvious for one skilled in the art to implement the

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invention of claim 10 in view of claims 18, 24, 12 and 1 in such a way that the control data would comprises phone line status information, as taught by claim 9, so that the control data would be obtained as required.

7. Claims 113, 116, 118, 119 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827, claim 1 of U.S. Patent No. 6,570,513 and claim 10 of U.S. Patent No. 6,385,235.

-Regarding to claim 113, claim 10 of U.S. Patent No. 6,137,827 discloses a powered side circuitry comprising:

an isolation interface (comprising “powered encoder circuit”, “isolation barrier” and “powered driver circuit”), capable of communicating digitally with user end phone line side circuitry “isolated system” through a user end isolation barrier “isolation barrier” that comprises a plurality of isolation elements “capacitors”; and

encode circuitry “power encoded circuit” within said isolation interface to generate an encoded digital signal from a digital data stream “digital signal” for transmission across at least two of the isolation elements of said isolation barrier, the at least two isolation elements comprising at least a first isolation capacitor and a second isolation capacitor, and the isolation interface being capable of communicating bi-directionally across said isolation barrier.

Claim 10 of U.S. Patent No. 6,137,827 does not teach that the isolation interface is capable of carrying out bidirectional communication through the first and second isolation capacitors, as claimed.

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Claim 18 of U.S. Patent No. 6,137,827 17, teaches that bidirectional communication can be carried out through each isolation capacitors of an isolation barrier.

Since claim 10 does not teach in detail how the bidirectional communication is carried out through the isolation barrier, it would have been obvious for one skilled in the art to implement the invention of claim 10 in such a way that the bidirectional communication would be configurable to be conveyed and to exist through the first and second isolation capacitors of the isolation barrier, as taught by claim 18, so that the bidirectional communication would be obtained as required. With such the implementation, claim 10 in view of claim 18 teaches that the isolation interface is capable of carrying out bidirectional communication through the first and second isolation capacitors.

Claim 10 in view of claim 18 of U.S. Patent No. 6,137,827 does not teach whether the encoded digital signal is an encoded digital differential signal including control data and the digital data signal, as claimed.

In a similar endeavor, claim 24 of U.S. Patent No. 6,137,827 teaches an encoding procedure of encoding a digital signal "data signals" by multiplexing the digital signal with control data "control signals" to obtain an encoded digital differential signal "differential digital signal".

Since claim 10 in view of claim 18 does not teach in detail how the encoded digital signal is generated, it would have been obvious for one skilled in the art to implement the procedure (comprising "isolated encoder circuit") in such a way that the procedure would multiplex the digital data signal with control data to obtain the encoded digital signal being an encoded digital

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differential signal comprising the digital signal and control data, as taught by claim 24, so that the generated encoded digital signal would be obtained as required.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827 and claim 24 of U.S. Patent No. 6,137,827 does not teach that the power side circuitry provides a clock signal to the phone line side circuitry through at least one of the plurality of isolation elements, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the invention comprises a clock circuit within the phone line side circuitry having an input connected to isolation elements of the isolation barrier for providing a clock signal "isolated clock signal" to the phone line side circuitry.

In a similar endeavor, claim 12 of U.S. Patent No. 6,137,827 teaches that such a clock signal "clock signal" can be provided from a powered side circuitry to the phone line side circuitry through one or isolation elements of a isolation barrier.

Since claim 10 in view of claims 18 and 24 does not teach in detail how the clock signal is provided, it would have been obvious for one skilled in the art to the invention of claim 10 in view of claims 18, 24, in such a way that the clock signal is provided from the powered side to the clock circuit of the phone line side through one or isolation elements of a isolation barrier, as taught by claim 12, so that the clock signal would be obtained as required.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827 and claim 12 of U.S. Patent No. 6,137,827 does teach that the power side circuitry provides power to the phone line side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the phone line side circuitry comprises an isolated power supply circuit connected to one or more isolation elements of the isolation barrier for converting a portion of energy in signal(s) transmitted cross the isolation element(s) into DC power to other circuitry in the phone line side circuitry.

In a similar endeavor, claim 1 of U.S. Patent No. 6,570,513 teaches procedure of providing power from a powered side circuitry “system side integrated circuit device” to a phone line side circuitry “line side integrated circuit device” while still maintaining the isolation required by the phone line isolation regulation standards.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827 and claim 12 of U.S. Patent No. 6,137,827 in such a way that the isolated power supply circuit would receive signal(s) conveying power/energy and being transmitted from the powered side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as taught by claim 1, via one or more isolation elements of the isolation barrier, for converting a portion of energy in the transmitted signal(s) transmitted into DC power to other circuitry in the phone line side circuitry so that the invention would enhanced by capability of maintaining the isolation required by the phone line isolation regulation standards.

Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 does not teach that the powered side circuitry comprises a communication interface coupled to an external user end, as claimed.

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In a similar endeavor, claim 10 of U.S. Patent No. 6,385,235 teaches that such a powered side circuitry can be configured to comprise a communication interface coupled to an external user end.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 of U.S. Patent No. 6,137,827 in view of claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 in such a way that the powered side circuitry would further comprise a communication interface coupled to an external user end, as taught by claim 10 of U.S. Patent No. 6,385,235, so that the invention would be enhance with capability of interfacing with an external user end.

-Regarding to claim 116, as applied to claim 113, claim 10 in view of claims 18, 24, 12, 1 and 10 teaches that the encoded digital differential signal includes both data information and control information.

-Regarding to claim 118, as applied to claim 113, claim 10 in view of claims 18, 24, 12, 1 and 10 teaches that each of said plurality of isolation elements of said isolation barrier comprises a capacitor.

-Regarding to claim 119, as similarly applied to claim 119, claim 10 in view of claims 18, 24, 12, 1 and 10 teaches that at least a portion of said plurality of isolation elements of said isolation barrier each comprises a capacitor.

8. Claim 114 and 115 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No.

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6,137,827, claim 1 of U.S. Patent No. 6,570,513 and claim 10 of U.S. Patent No. 6,385,235 and further in view of Claim 17 of U.S. Patent No. 6,385,235.

-Regarding to claim 114, claim 10 in view of claims 18, 24, 12, 1 and 10 does not teach that signals communicated through said communication interface comprise digital data signals, control signals and phone line status signals, as claimed..

Claim 17 of U.S. Patent No. 6,385,235 teaches that signals communicated through said communication interface comprise digital data signals, control signals and phone line status signals.

Since claim 10 in view of claims 18, 24, 12, 1 and 10 does not teach in detail how signals are generated and processed in the communication interface, it would have been obvious for one skilled in the art to implement the invention of claim 10 in view of claims 18, 24, 12, 1 and 10 in such a way that signals communicated through said communication interface comprise digital data signals, control signals and phone line status signals, as taught by claim 17, so that more detail design of the communication interface would be obtained.

-Regarding to claim 115, claims 10 in view of claims 18, 24, 12, 1, 10 and 17 teaches that the communication interface comprises a digital serial port interface.

9. Claims 125-128, 131, 133 and 134 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513.

-Regarding to claim 125, claim 10 discloses a system comprising:

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powered side circuitry “powered system” operable to communicate digitally with phone line side circuitry “isolated system”, said digital communication comprising a digital data stream transmitted across an isolation barrier “isolation barrier” that comprises a plurality of isolation elements “capacitors”;

phone line side circuitry “isolated system” operable to communicate digitally with powered side circuitry across said isolation barrier that comprises a plurality of isolation elements; and

encode and decode circuitry (comprising “powered encoder” and “power decoder”) coupled to said digital data stream to generate an encoded digital signal for transmission and receipt across at least two of the isolation elements of said isolation barrier, the at least two isolation elements comprising at least a first isolation capacitor and a second isolation capacitor;

Claim 10 does not disclose that the communication across said isolation barrier is bi-directional across said first and second isolation capacitors of said isolation barrier, as claimed.

Claim 18 of U.S. Patent No. 6,137,827 17, teaches that bidirectional communication can be carried out through each isolation capacitors of an isolation barrier.

Since claim 10 does not teach in detail how the bidirectional communication is carried out through the isolation barrier, it would have been obvious for one skilled in the art to implement the invention of claim 10 in such a way that the bidirectional communication would be configurable to be conveyed and to exist through the first and second isolation capacitors of the isolation barrier, as taught by claim 18, so that the bidirectional communication would be obtained as required. With such the implementation, claim 10 in view of claim 18 teaches that

the communication across said isolation barrier is bi-directional across said first and second isolation capacitors of said isolation barrier, as claimed.

Claim 10 in view of claim 18 does not teach that the encoded digital signal is an encoded digital differential signal comprising control data added to said digital data stream, as claimed.

In a similar endeavor, claim 24 of U.S. Patent No. 6,137,827 teaches an encoding procedure of encoding a digital signal “data signals” by multiplexing the digital signal with control data “control signals” to obtain an encoded digital differential signal “differential digital signal”.

Since claim 10 in view of claim 18 does not teach in detail how the encoded digital signal is generated, it would have been obvious for one skilled in the art to implement the encode and decode circuitry with an encoding procedure in such a way that the procedure would multiplex the digital data signal with control data to obtain the encoded digital signal being an encoded digital differential signal comprising the digital signal and control data, as taught by claim 24, so that the generated encoded digital signal would be obtained as required.

Claim 10 in view of claim 18 and 24 does not teach that the power side circuitry provides a clock signal to the phone line side circuitry through at least one of the plurality of isolation elements, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the invention comprises a clock circuit within the phone line side circuitry having an input connected to isolation elements of the isolation barrier for providing a clock signal “isolated clock signal” to the phone line side circuitry.

In a similar endeavor, claim 12 of U.S. Patent No. 6,137,827 teaches that such a clock signal “clock signal” can be provided from a powered side circuitry to the phone line side circuitry through one or isolation elements of a isolation barrier.

Since claim 10 in view of claims 18, 24 does not teach in detail how the clock signal is provided, it would have been obvious for one skilled in the art to the invention of claim 10 in view of claims 18, 24 in such a way that the clock signal is provided from the powered side to the clock circuit of the phone line side through one or isolation elements of a isolation barrier, as taught by claim 12, so that the clock signal would be obtained as required.

Claim 10 in view of claims 18, 24 and 12 does teach that the power side circuitry provides power to the phone line side circuitry while still maintaining the isolation required by the phone line isolation regulation standards, as claimed.

However, claim 10 of U.S. Patent No. 6,137,827 teaches that the phone line side circuitry comprises an isolated power supply circuit connected to one or more isolation elements of the isolation barrier for converting a portion of energy in signal(s) transmitted cross the isolation element(s) into DC power to other circuitry in the phone line side circuitry.

In a similar endeavor, claim 1 of U.S. Patent No. 6,570,513 teaches procedure of providing power from a powered side circuitry “system side integrated circuit device” to a phone line side circuitry “line side integrated circuit device” while still maintaining the isolation required by the phone line isolation regulation standards.

It would have been obvious for one skilled in the art to implement the invention of Claim 10 in view of claims 18, 24 and 12 in such a way that the isolated power supply circuit would receive signal(s) conveying power/energy and being transmitted from the powered side circuitry

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while still maintaining the isolation required by the phone line isolation regulation standards, as taught by claim 1, via one or more isolation elements of the isolation barrier, for converting a portion of energy in the transmitted signal(s) transmitted into DC power to other circuitry in the phone line side circuitry so that the invention would be enhanced by capability of maintaining the isolation required by the phone line isolation regulation standards.

-Regarding to claim 126, as applied to claim 125, Claim 10 in view of claims 18, 24, 12 and 1 teaches that said isolation barrier coupled between said powered side circuitry and said phone line side circuitry.

-Regarding to claim 127, as applied to claim 125, Claim 10 in view of claims 18, 24, 12 and 1 teaches the invention is configurable in such a way that said powered side circuitry includes encode circuitry "powered encoder circuit" coupled to said digital data stream to generate an encoded digital differential signal for transmission across said at least two isolation elements of said isolation barrier and wherein said phone line circuitry includes decode circuitry "isolated decoder circuit" to generate a decoded digital signal from said encoded digital differential signal.

-Regarding to claim 128, as applied to claim 125, Claim 10 in view of claims 18, 24, 12 and 1 teaches the invention is configurable in such a way that said phone line side circuitry includes encode circuitry "isolated encoder circuit" coupled to said digital data stream to generate an encoded digital differential signal for transmission across said at least two isolation elements of said isolation barrier and wherein said powered circuitry includes decode circuitry "powered decoder circuit" to generate a decoded digital signal from said encoded digital differential signal.

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-Regarding to claim 131, as applied to claim 125, Claim 10 in view of claims 18, 24, 12 and 1 teaches that the encoded digital differential signal includes both data information and control information.

-Regarding to claim 133, as applied to claim 125, Claim 10 in view of claims 18, 24, 12 and 1 teaches that each of said plurality of isolation elements of said isolation barrier comprises a capacitor.

-Regarding to claim 134, as similarly applied to claim 133, Claim 10 in view of claims 18, 24, 12 and 1 teaches that at least a portion of said plurality of isolation elements of said isolation barrier each comprises a capacitor.

10. Claim 129 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 and further in view of claim 9 of U.S. Patent No. 6,385,235.

-Regarding to claim 129, Claim 10 in view of claims 18, 24, 12 and 1 does not teach that said control data comprises phone line status information.

In a similar endeavor, claim 9 of U.S. Patent No. 6,385,235 teaches that a control data comprises phone line status information.

Since Claim 10 in view of claims 18, 24, 12 and 1 does not teach in detail about the content of the control data, it would have been obvious for one skilled in the art to implement the invention of Claim 10 in view of claims 18, 24, 12 and 1 in such a way that the control data

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would comprises phone line status information, as taught by claim 9, so that the control data would be obtained as required.

11. Claim 130 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 6,137,827 in view of Claim 18 of U.S. Patent No. 6,137,827, claim 24 of U.S. Patent No. 6,137,827, claim 12 of U.S. Patent No. 6,137,827 and claim 1 of U.S. Patent No. 6,570,513 and further in view of Claim 11 of U.S. Patent No. 6,385,235.

-Regarding to claim 130, Claim 10 in view of claims 18, 24, 12 and 1 does not teach that said phone line side circuitry has analog output signals that is capable of being coupled to phone lines through hook-switch circuitry and diode bridge circuitry, as claimed.

Claim 11 of U.S. Patent No. 6,385,235 teaches that such a phone line side circuitry is configurable to have analog output signals that is capable of being coupled to phone lines through hook-switch circuitry and diode bridge circuitry.

It would have been obvious for one skilled in the art to additionally implement the invention of Claim 10 in view of claims 18, 24, 12 and 1 to have analog output signals that is capable of being coupled to phone lines through hook-switch circuitry and diode bridge circuitry so that the invention would be enhanced with capability of interfacing with phone lines for couple signals to the phone lines.

Allowable Subject Matter

12. Claims 60-62, 103-112, 120-124 and 135-142 are allowed.

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13. Claims 57, 100, 117 and 132 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHUONG PHU
PRIMARY EXAMINER



Phuong Phu
03/02/07

Phuong Phu
Primary Examiner
Art Unit 2611